Orthman AGRICULTURAL

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STALK PULLER

OPERATOR'S MANUAL

ORTHMAN
MANUFACTURING
INCORPORATED

STILL THE STRONGEST

ORTHMAN MFG. INC.
75765 RD. 435
LEXINGTON, NE 68850

OM09-03-01

WARRANTY

Orthman Mfg., Inc. warrants the whole goods products it manufactures to be free from defects in material or workmanship for a period of one (1) year from the date of sale of the product(s) to the original user. Products not manufactured, but supplied by Orthman Mfg., Inc. on Orthman products, are subject to, conform with, and are limited to the warranty of our suppliers.

Orthman Mfg., Inc. warrants the parts it manufactures to be free from defects in material or workmanship for a period of ninety (90) days from the date of delivery of the product(s) to the original user. Products not manufactured, but supplied by Orthman Mfg., Inc. on Orthman products, are subject to, conform with, and are limited to the warranty of our suppliers.

Warranty of Orthman whole goods and/or parts applies only to material and workmanship. Misuse, misapplication, neglect, alteration, accident, normal wear, or acts of God affecting Orthman products are not eligible for warranty.

Warranty of serial numbered goods will only be considered if the product has a completed Warranty Registration on file at Orthman. This Warranty Registration must be completed and returned to Orthman within thirty (30) days of the sale of the product(s) to the original user. ***No serial numbered goods or related parts and/or labor will be warranted without a Warranty Registration on file.*** Warranty issues falling within the first thirty days of a product's use will be handled at the discretion of Orthman. Warranty of parts will not require a Warranty Registration, but proof of date of delivery of the product to the original customer must be provided.

WARRANTY CLAIMS: A warranty claim and request to return defective product(s) must be presented to the Orthman Service Department by the selling dealer describing the defect in material or workmanship of an Orthman product(s) within ten (10) days of its discovery. This claim may be made via phone, e-mail, fax, or written request. Claims for warranty of serial numbered goods must include the Orthman product serial number and model number. Claims for warranty of parts will not require a product serial number or model number, but must be identified by an Orthman part number. Claims for warranty of whole goods or parts must also include proof of date of sale of the product to the original customer by an Orthman dealer.

The Orthman Service Department will proceed in making a preliminary decision as to the eligibility of the claim for warranty consideration. After the Orthman Service Department deems it necessary to proceed with warranty consideration, a Return Goods Authorization (RGA) will be completed by the Orthman Service Department in conjunction with the selling dealer. Upon completion of the RGA, the defective product(s) must be returned to Orthman to ensure warranty consideration. Defective product(s) must be returned to Orthman by either the selling dealer or the customer. Customer delivery of defective product(s) must be approved by Orthman and the selling dealer prior to delivery. The defective product(s) in question must be sent, freight prepaid, within sixty (60) days of the discovery of the product(s) failure and initial warranty claim. Replacement product(s) may be sent to the selling dealer, directly to the customer, or picked up at the Orthman facility. Replacement product(s), sent directly to the customer or picked up must be approved by Orthman and the selling dealer. At the discretion of the Orthman Service Department, replacement product(s) may be sent prior to, or after, the Orthman Service Department receives the defective product(s).
Any variation in the above procedure is at the sole discretion of the Orthman Service Department.

No products will be accepted at Orthman without all proper paperwork completed including Warranty Registration and RGA(s). Parts returned to Orthman without proper authorization will be returned to the sender at the sender's expense.

Orthman agrees to handle all warranty claims in a timely manner and will inform dealers of any revisions or modifications to the Orthman Warranty Policy. Eligible warranty claims will be processed by Orthman within sixty (60) days of receiving failed product(s) or a valid service or repair labor claim. Eligible warranty claims regarding returned product(s) or service and/or repair labor will be paid through a credit memo issued to the appropriate dealer's account as determined by the Orthman Service Department.

If a warranty claim is found to be ineligible for warranty coverage, the Orthman Service Department will be responsible to inform the dealer in order to determine the course of action to be taken. Orthman reserves the right to make changes in specification and design without notice and without incurring any obligations to owners of products previously sold.

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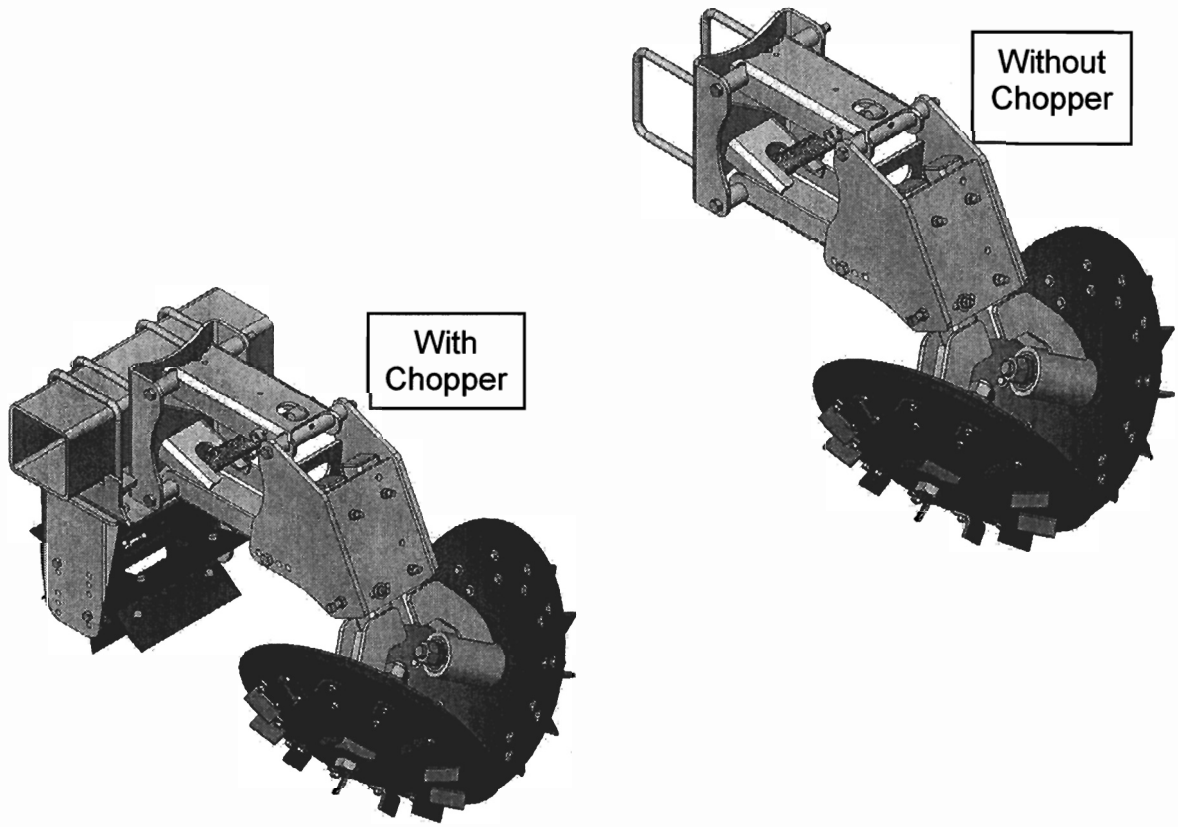
Orthman provides this manual without warranty of any kind, expressed or implied. This manual reflects the product at the time of publication. All information within is based upon current information on the publication date. Orthman assumes no responsibility for damages incurred due to the use of the illustrations, information, and specifications within this publication.

Orthman®

Stalk Puller and Chopper



Operator and Service Manual

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II. SAFETY

! This symbol is used to call attention to instructions concerning personal safety. Be sure to observe and follow these instructions. Failure to do so increases the possibility of personal injury or death. Read manual carefully before operating or servicing your Orthman equipment.

You are responsible for the safe operation of your equipment. Anyone operating maintaining or working around the bar must be familiar with the procedures and pertinent safety information contained in this manual. Be careful when operating the bar to avoid injury.

! CAUTION! Equipment is to be operated by qualified personnel only. A full understanding of the operation, maintenance, and safety requirements is mandatory before use.

! WARNING! Stand clear of implement and always make sure there are no persons near it when in operation, or while being folded or unfolded. No riders on the implement. Always unfold the wings completely before unhitching it from the tractor. Be sure the implement is on a level and firm surface when not in use and cycle the hydraulic control lever to relieve pressure in cylinders and hoses.

! WARNING! Do not allow children to play on or around the equipment. Serious injury or death can occur from falling on sharp hard objects, or from being run-over. Amputation of curious fingers or limbs is a possibility.

! WARNING! Watch for obstructions when folding of the outer wings. Make sure that no one is within the swing arc of the wing, when folding or unfolding. Serious injury or death can occur from being struck or trapped by the wing.

! WARNING! Always use all provided bar-stands to support the bar for parking or storage. Do not rely on bar-stands to protect persons working around or under equipment.

! WARNING! DO NOT work on unit when it is not connected to a tractor as uneven or unpredicted forces may cause bar to fall, causing personal injury or death, and equipment damage. Unit must be connected to tractor and quick-tach latches closed before any maintenance or servicing is done.

! WARNING! Use care when disconnecting from the tractor and be sure to support it. Personal injury or death and equipment damage may occur if unsupported, unhitched bar is exposed to external or uneven forces (wind, thrust, etc.). Store on level, solid ground such as a concrete pad.

! WARNING! Always make necessary safety preparations prior to transporting the machine on public roads. This includes installing Slow Moving Vehicle (SMV) emblem and use of adequate lights or safety warnings after dark.

! WARNING! Be careful when operating on hillsides. Tractor can tip sideways if it strikes a hole, ditch, or other irregularity.

! WARNING! Do not fold or unfold toolbar while on a side-hill. Bar may tip over and take tractor with it.

! WARNING! Watch for obstructions such as wires, tree limbs, etc. when folding and unfolding equipment. Serious injury or death can result from contact with electric lines. Use care when moving or operating this machine near electric lines to avoid contact.

! WARNING! Escaping hydraulic oil under pressure can have sufficient force to penetrate skin, causing serious personal injury or death. Before attaching or disconnecting hydraulic lines, relieve pressure by using controls at tractor. Before applying pressure, make sure all connections are tight and lines, pipes, and hoses are not damaged. Hydraulic oil escaping from a very small hole can be almost invisible, and can amputate a limb or inject oil into the flesh. Use a piece of cardboard or wood rather than hands to search for suspected leaks, or take the bar to a qualified repair facility. If injured by escaping hydraulic oil, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

! WARNING! Be extremely careful when working around unshielded discs, sweeps, and coulter blades. Serious injury may result from contact with sharp edges.

! WARNING! When working on the toolbar, block and use parking stand and jack where necessary. Tractor should be turned off, in park, parking brake engaged, and key removed from ignition.

! CAUTION! Be sure hydraulic cylinders and attaching hoses are fully charged with oil before operating system. Air in system can cause fast unexpected motion.

! CAUTION! The maximum transport speed for this bar is 20 mph (32 kph). DO NOT EXCEED. Never travel at any speed that does not permit adequate control of steering and stopping.

! CAUTION! Do not transport after dark without proper authority. Check all lights and reflectors prior to transporting. All must be in working order and visible.

! CAUTION! Use care when transporting across rough ground. Excessive speed diagonally across an uneven surface can cause loss of control, can upset the bar, and can cause structural damage.

! CAUTION! Never lubricate or service machine while it is moving. Keep away from power driven parts while running. Disengage all power before performing maintenance.

! WARNING! Do not stand between tractor and implement unless the tractor transmission is in park.

! CAUTION! Securely support any machine components that must be raised for service work.

! CAUTION! Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

! WARNING! Before each use, inspect hitch pins for wear, stress cracks, shear or bending deflection. Replace if wear exceeds 1/16" (diametral). Replace only with high strength pins. The use of pins of lesser grade can result in failure, loss of control, injury or death to operator and others, and damage to equipment.

! WARNING! Bar-stands must be used to secure and control the toolbar before disconnecting from the tractor. Do not rely on row units to keep the bar upright, as their ability to do so will depend on spring pre-load, and is not reliable support. Failure to do so can result in injury or death.

! CAUTION! Disks are sharp. Amputation hazard. Do not place fingers, hands, etc between disks while disks are moving. Do not spin disks while any body parts are between them. Do not place hands on disk edges and spin as fingers can be pulled into the contact zone and amputated. Do not lean on the disks or the machine, as you can slip and since disks are free to rotate they can collect incoming objects or fingers or limbs, entrain them to the pinch point, and cut or amputate.

! CAUTION! Keep cleat fasteners tight. Loose cleats can be flung and cause injury or structural damage.

! CAUTION! Do not attempt to hoist row unit into position on bar by hand. Disks can rotate and cause amputation of limbs. Use a hoist.

Safety Signs on Equipment

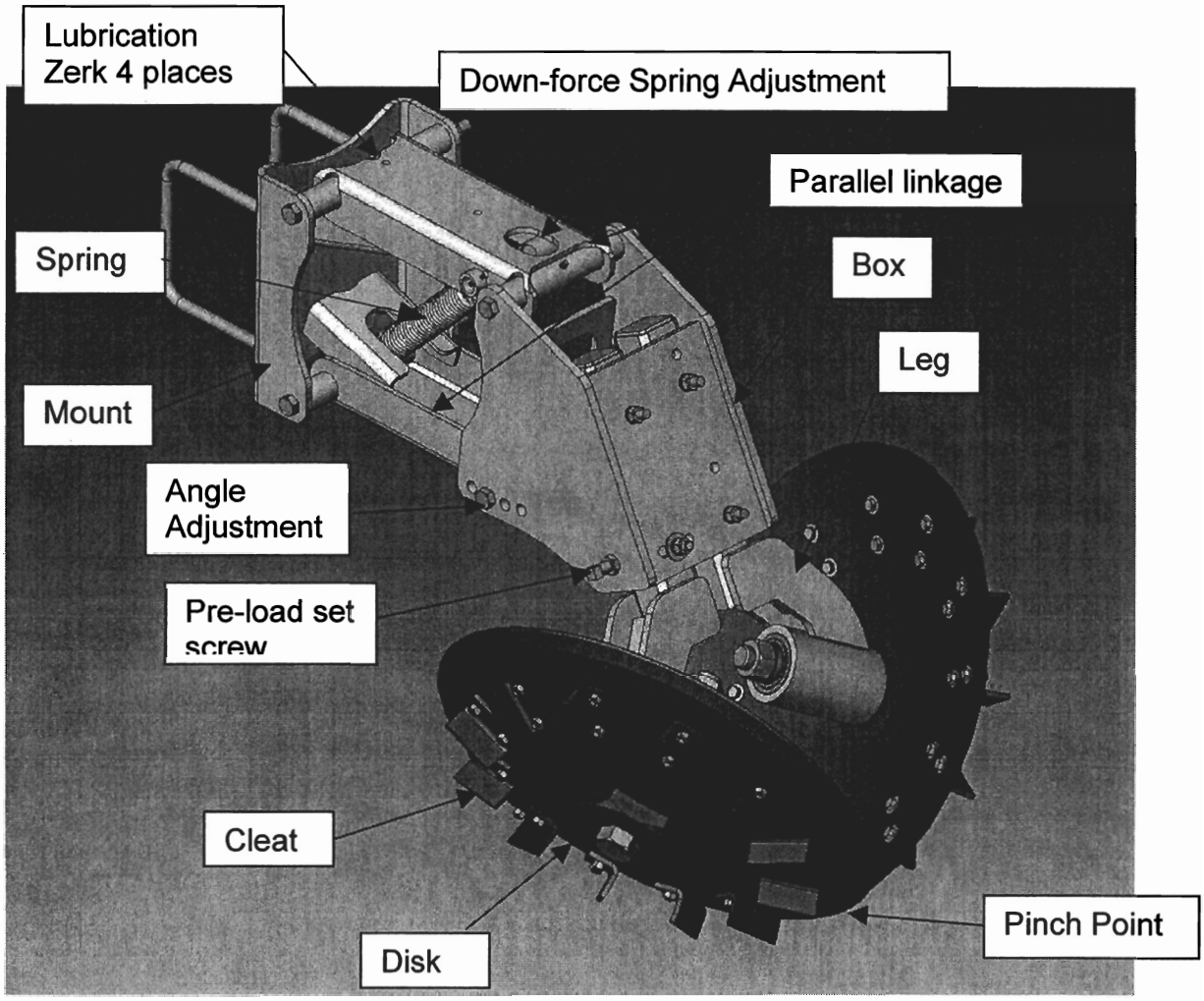
- Safety signs should be kept legible.
- Safety signs must be replaced if they are missing or illegible.
- New equipment components installed during repair shall include the current safety signs. Repair agent must see that repair includes restoration of safety signs.
- Safety signs may be ordered from the OMI Parts department at the location indicated below.
- Safety signs are applied by preparing the surface. Remove all dirt and oil. Clean and dry the area. Remove the backing. Align decal with the components and lightly stick it on. Work the bubbles out with fingers or plastic decal applicator. Apply firm pressure and push from center outward until bubbles are removed and decal is firmly adhered. Persistent bubbles can be removed by puncturing the decal and chasing the air out through the hole with finger pressure.

Supplied signs, OMI part numbers for ordering, and locations are as follows:

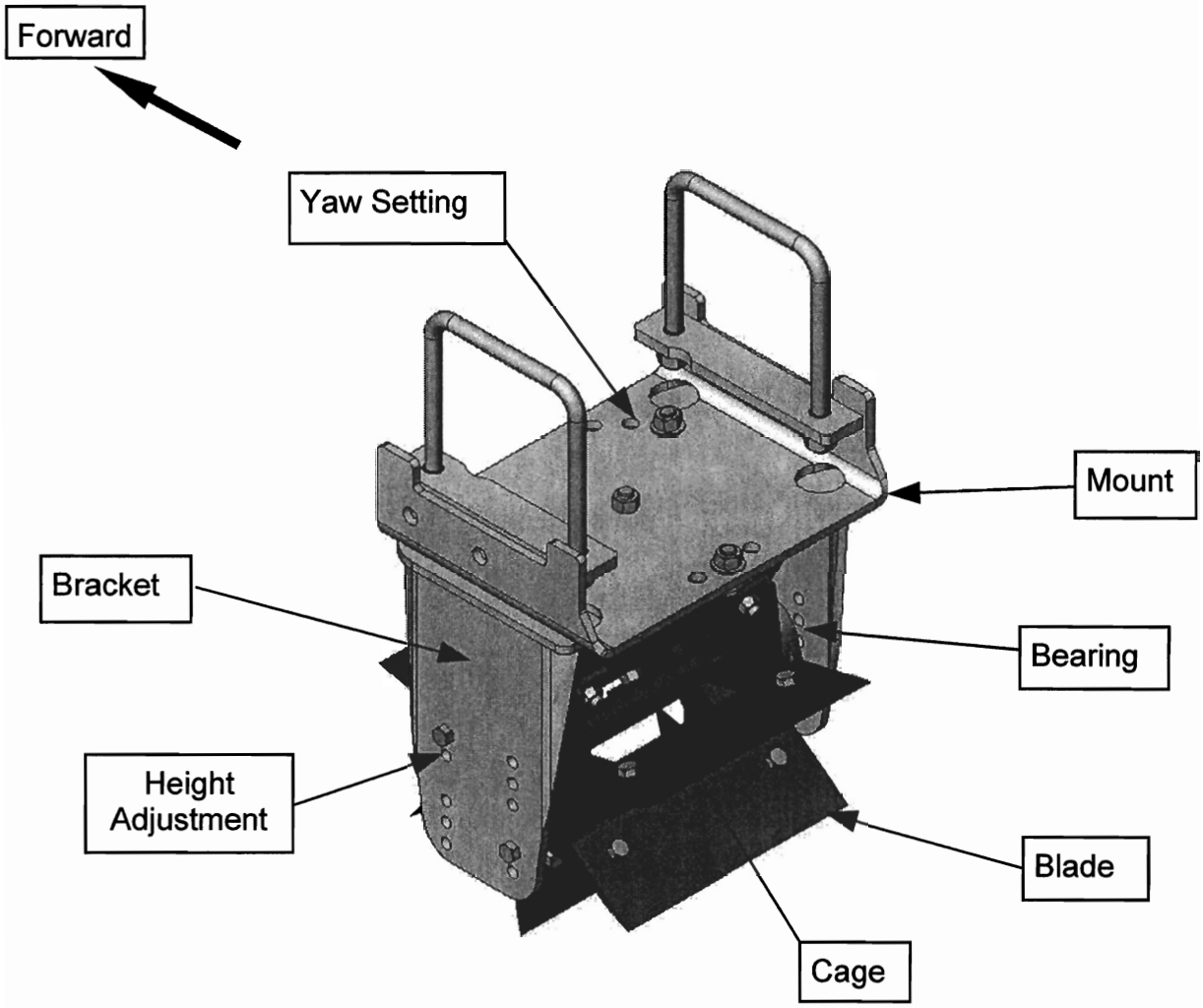
Description	Part Number	Location	Direction it faces
Warning, Thrown Objects	153-146	Front of toolbar near hitch	To the front
Warning, Tipping	153-403	Front of toolbar near hitch	To the front
Warning, Crushing Injury	153-529	Box of each outside row unit	To the rear
Warning, Disks Have Sharp Edges	153-045	Front of toolbar near hitch	To the front

III. COMPONENT IDENTIFICATION

Stalk Puller



Chopper (Optional)



IV. ASSEMBLY

Secure the tool-bar with the bar-stands. Verify the tool-bar is stable before proceeding. Use auxiliary stands if necessary to assure that the bar will not shift while assembling.

Stalk Puller

If mounts are pre-assembled to the parallel linkage, they must be disassembled, as the u-bolts cannot be tightened with the linkage connected.

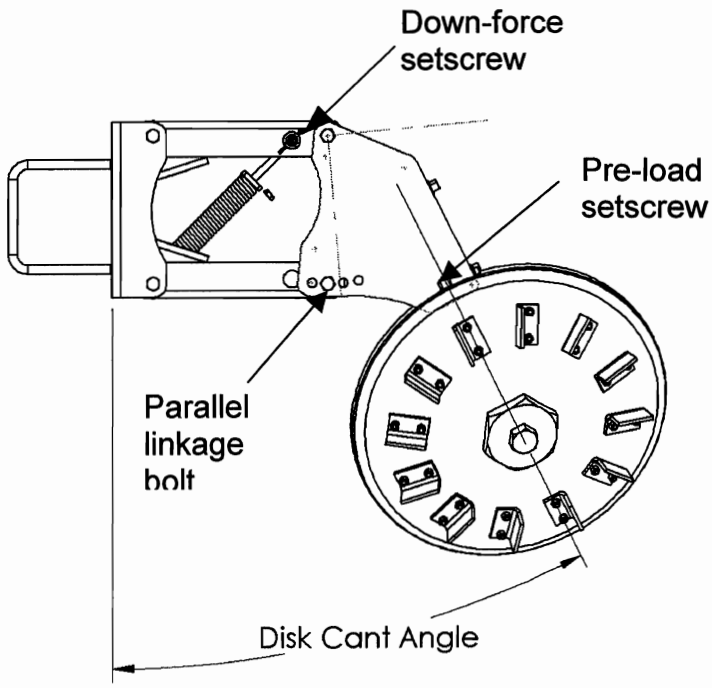
Install the mounts to the bar. Verify the spacing is correct and torque the u-bolts.

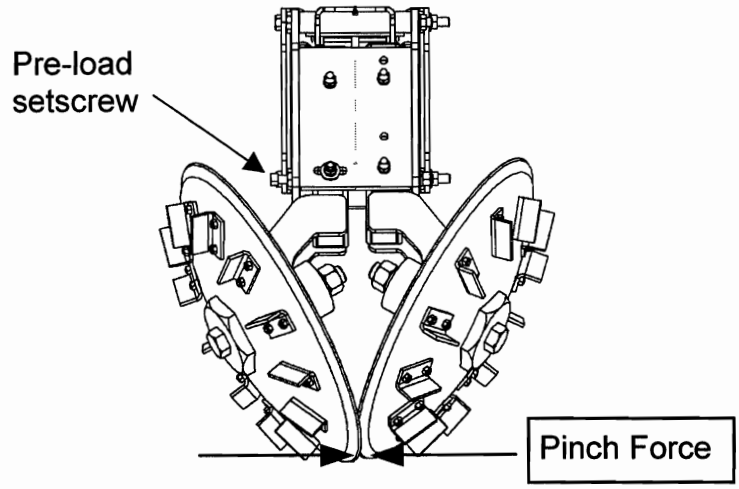
Hoist a row unit into position with a suitable lifting mechanism.

Connect the parallel linkage to the mount, and tighten fasteners to specification (see the torque chart). Repeat until all row units are mounted.

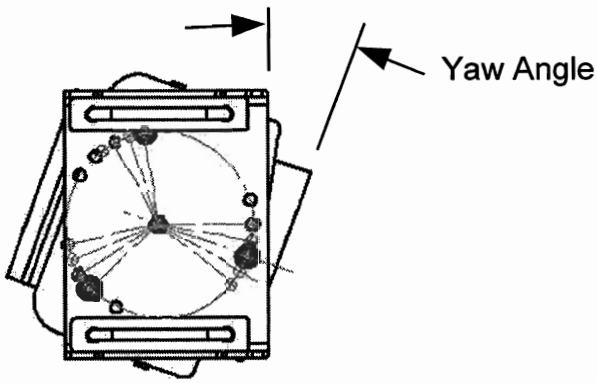
Adjustments

- The pinch force can be adjusted by loosening the left leg fasteners and setting the pre-load setscrew.
- Adjustment can be made to the cant angle of the disks by moving the lower rear parallel linkage bolt to a different hole in the box.
- The down-force can be set by loosening or tightening the screw at the top of the spring.

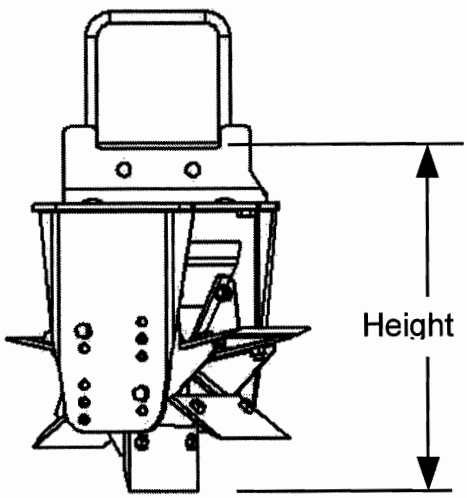


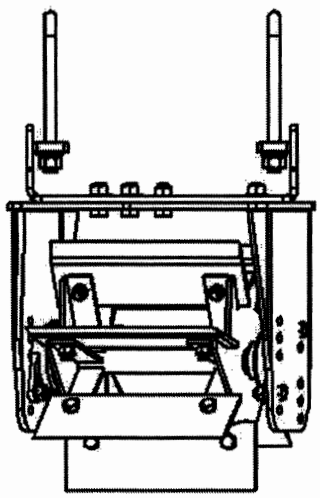


Stalk Chopper



Settings:
Yaw angles up to 15 degrees
Height from 19.5 to 21.5 inches





V. OPERATION

Connect to the toolbar using the procedures defined in tractor and/or toolbar manual.
Stow the bar-stands.

Move to the field and place the bar into the field position. Line up with the rows. Select a gear. Field speeds in the range of 10 to 15 mph have been found to be most effective. Proceed with operation. Stop and examine the results.

The photo below shows the cross-sections of stumps that were removed using different height settings.

Viewed from L to R:

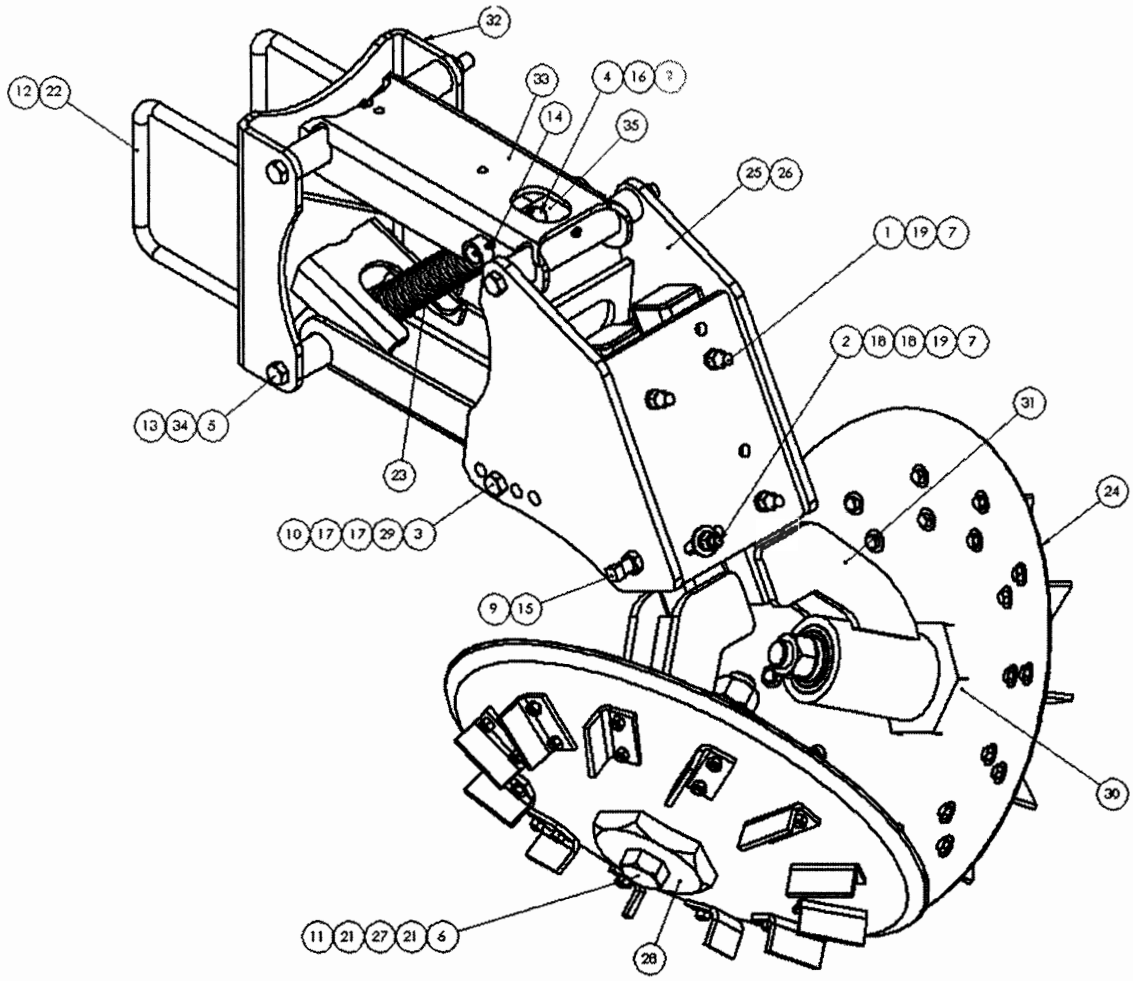
1. Stump that was cut out using a deep setting (high down-force, low toolbar)
2. Stump cut at the base of the stalk
3. Stump cut shallow (minimal down-force, and/or high bar setting).

The Operator may adjust the spring down-force, pinch force, and bar height to tune into the mode that performs the best for his or her operation.

STOWING THE MACHINE

Keep personnel away from machine. Using the tractor, set the bar so row units contact the ground and parallel linkages are level with the ground. Extend the bar-stands before disconnecting from the tractor. Insert set-pins completely through their holes to secure the legs in place. After all bar-stands have been extended and secured with pins the machine may be detached from the tractor. Do not stow with disks elevated as disks can still rotate, and pose a hazard of crushing or amputation. Keep children away from the machine.

VI. PARTS



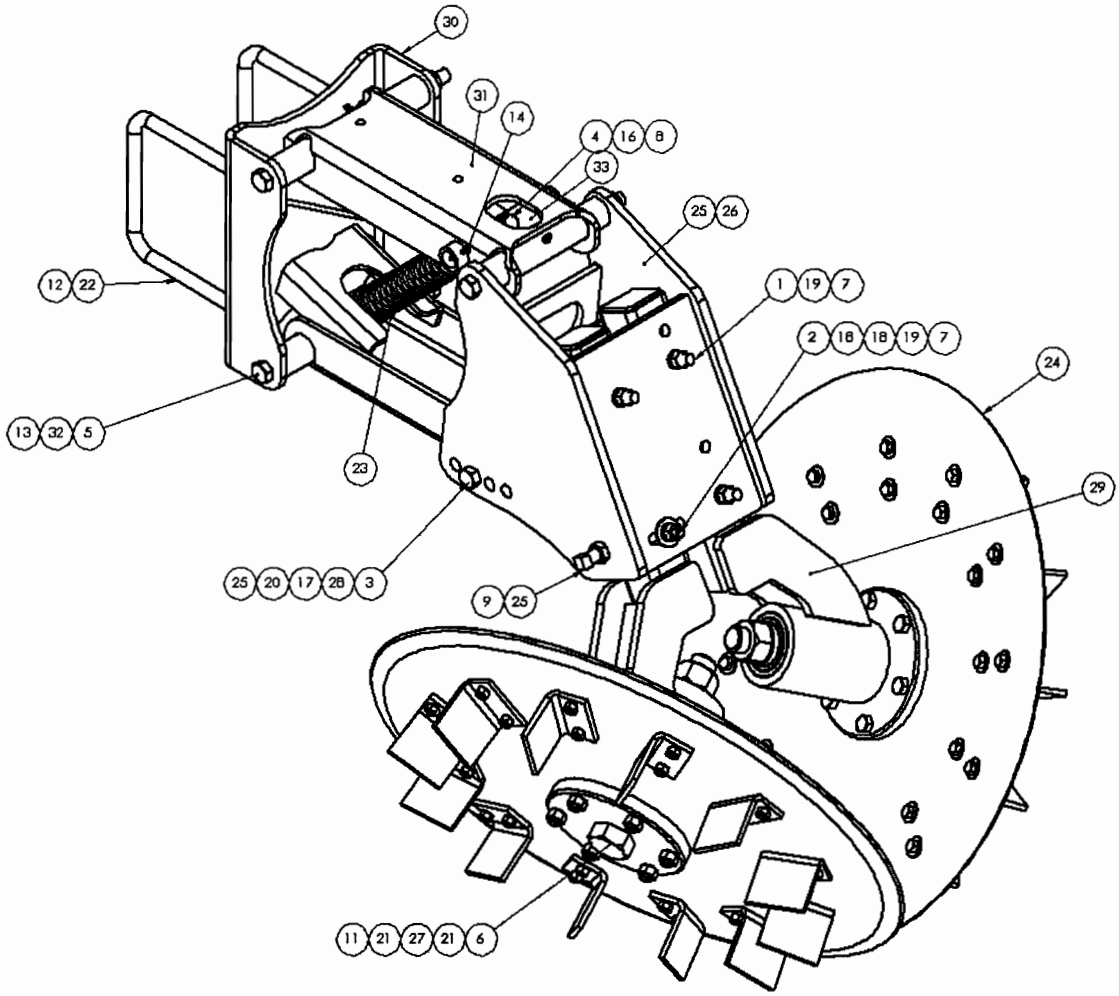
Stalk Puller Parts- 24" DISKS

ITEM NO.	QTY.	PART NO.
1	3	100-028
2	1	100-125
3	2	100-152
4	1	100-281
5	2	100-470
6	2	100-518
7	4	102-007
8	1	102-015
9	1	102-016
10	1	102-017
11	2	102-091
12	4	102-121

ITEM NO.	QTY.	PART NO.
13	3	102-122
14	2	104-030
15	1	106-160
16	1	108-001
17	1	108-002
18	2	108-009
19	4	108-020
20	1	108-021
21	4	120-180
22	2	315-031
23	1	319-493
24	2	386-123

ITEM NO.	QTY.	PART NO.
25	1	386-166
26	1	386-167
27	2	386-171
28	2	386-173
29	2	386-175
30	2	386-176
31	2	386-182
32	1	386-189
33	2	386-191
34	2	386-192
35	1	386-193

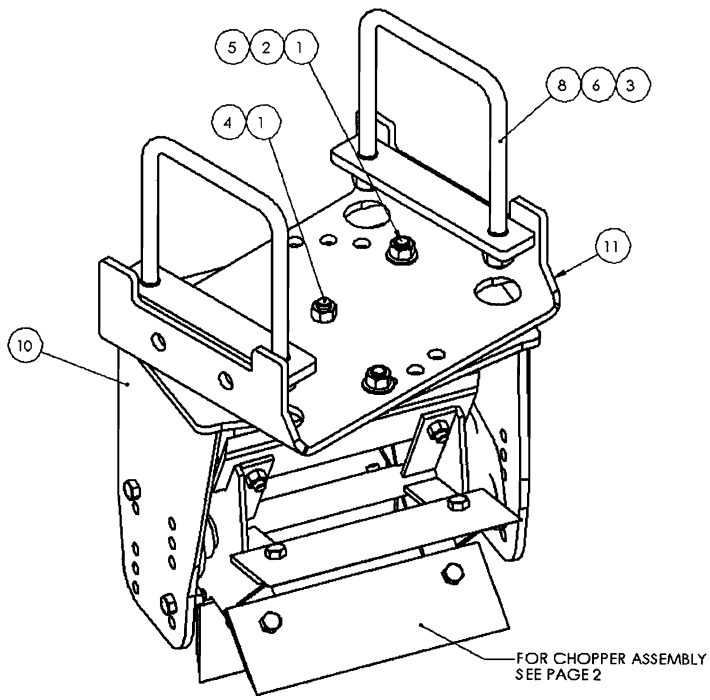
Stalk Puller Parts- 28" DISKS



ITEM NO.	QTY.	PART NO.	ITEM NO.	QTY.	PART NO.	ITEM NO.	QTY.	PART NO.
1	3	100-028	12	4	102-121	23	1	319-493
2	1	100-125	13	3	102-122	24	2	386-124
3	2	100-152	14	2	104-030	25	1	386-166
4	1	100-281	15	1	106-160	26	1	386-167
5	2	100-470	16	1	108-001	27	2	386-171
6	2	100-518	17	1	108-002	28	2	386-175
7	4	102-007	18	2	108-009	29	2	386-182
8	1	102-015	19	4	108-020	30	1	386-189
9	1	102-016	20	1	108-021	31	2	386-191
10	1	102-017	21	4	120-180	32	2	386-192
11	2	102-091	22	2	315-031	33	1	386-193

Chopper parts

ITEM NO.	QTY.	PART NO.
1	4	100-131
2	3	102-008
3	4	102-009
4	1	102-029
5	3	108-002
6	4	108-003
7	4	108-022
8	2	315-031
10	1	386-154
11	1	386-157



VII. MAINTENANCE

Check fasteners and tighten if necessary. Use the following torque chart for reference:

Standard Dry Torque (Foot-Pounds)			
Bolt Size (inches)	Thread (course)	SAE Grd.5	SAE Grd.8
5/16	18	19	29
3/8	16	33	47
7/16	14	54	78
1/2	13	78	119
9/16	12	114	169
5/8	11	154	230
3/4	10	257	380
7/8	9	382	600
1	8	587	700
1 1/8	7	794	1430
1 1/4	7	1105	1975

Lubrication

Lubricate the stalk puller parallel linkage with multi-purpose grease each day the machine is in use.

Lubricate the chopper bearings each day the machine is in use.

The stalk puller hub bearings are sealed and do not require re-lubrication.

Examination and Repair

Visual examination should be done each day of use.

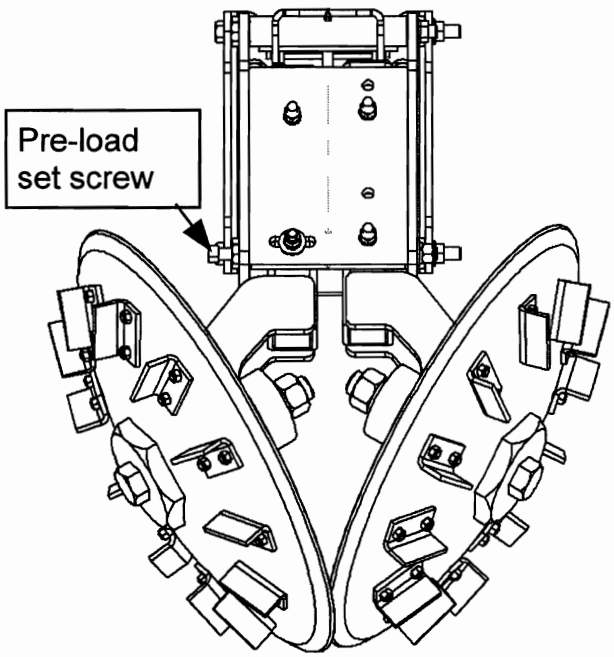
Do not attempt to weld on the disks. The high carbon alloy is not repairable by welding. Cracked disks must be replaced.

Check all components for cracks or damage. If components appear to be in danger of coming apart, collapsing, or causing damage, repair or replace at once.

Examine parallel linkage bushings for wear by pushing sideways on the box. Excessive looseness may be cause for concern. Some disassembly is required to examine bushings. Bushing replacement is necessary if wear and looseness becomes excessive.

Use a hoist to lift the row unit or the tractor hitch to lift the bar, to permit rotation of disks. Observe precautions about amputation. Carefully rotate disks and listen for unusual sounds that might indicate bearing failure. Failed bearings should be replaced.

The chopper bearings can be checked in a similar manner.



Through normal use, a groove may eventually wear into the lower disk. The life of the disk can be extended with an adjustment. If the groove becomes approximately 1/16" deep, it is recommended that the relative disk positions be reversed. For example, in the view at the left, the right disk imposes on the left. These can be reversed by lowering the right disk, so that the left disk imposes upon it. Loosen the left leg bolts, remove the right leg fasteners and shift the right leg downward, until the alternative set of holes is in alignment. Fasteners must then be installed in the alternative holes of the right leg. Then reset the preload setscrew and tighten the left leg fasteners.

VIII. TROUBLESHOOTING

Condition	Comment
Disks are plugging with debris	• Speed too slow • Conditions too wet • Too much down pressure • Disk leg angle too aggressive • Failed hub bearing • Chopper blades dull • Chopper set too high
Stalks not being cut	• Speed too slow for chopper to effectively cut stalks • Pinch force too small. Increase pre-load at left leg set scew
Disks won't stay in the ground	• Disk angle too vertical or upright • Not enough spring down-force
Skips	• Disk pinch force too loose. Check pinch force set screw, locknut and leg fasteners • Hard, uneven soil conditions.

	Unit may be bouncing. Adjust springs for more down force
Parallel linkage not running level to the ground	• Hitch set incorrectly. Adjust hitch height • Chopper height incorrect
Excessive holes in ground where stumps have been removed	• Disks too deep into ground. • Disk cant angle too aggressive
Inconsistent or poor stalk removal	• Disks not deep enough • Chopper too deep into the ground • Incorrect disk angle

Questions concerning the equipment, or the manuals should be directed to:

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